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Mr. H. L. Holstrum

Laboratory, Indianapolis

H. R. Horner

July 11, 1955

Minneapolis Equipment -
Pitch Storage Tank

cc: Mr. C. B. Edwards

You are correct in your letter of July 1st, and it is not our recommendation to bolt the manhole covers down tight on either your RT-12 or pitch tank. These are not pressure vessels, and any appreciable back pressure is liable to damage the roof.

We do not have too much information on the exact quantity of steam and vapor, but we assume that the worst condition is at the end of the blow of a still of pitch, and under this condition we figure the still full of steam at ten lbs. pressure. Under these conditions when the steam reaches the tank it will expand and calculating the back pressure on the condensor, we estimate about 6 oz. of pressure in the tank. This is enough to lift the lid, but in other installations not enough to vent sufficient steam and vapor to be objectionable.

To eliminate the nuisance, we will have to reduce the back pressure on the condensor or add weight to the manhole cover. Mr. Hennessy is most familiar with your particular hook-up, and when he returns from his vacation, I will ask him to check the safe back pressure on the tank and recommend the maximum amount of weight that we can add to the lid for safe operation. He has reported, however, that your present condensor is more than adequate to condense such steam and fumes that you generate, and it is our recommendation that you cut out approximately the last four runs of pipe in your condensor, thus materially reducing the back pressure. If no steam or vapor escaped from the end of the condensor under these conditions, I would cut out additional runs of pipe until we have reduced the back pressure to the minimum.

The condensed oil on top of the tank is not only a nuisance, but a hazard and a possible source of complaint from our neighbors, and therefore I think we should eliminate it. At Cleveland where we have a similar tank, we have used an air condensor, a sketch of which we are attaching. If we are unable to either weight the lid or cut down the back pressure on the condensor enough to give satisfactory operation, I think we should install this air condensor which works entirely satisfactorily at Cleveland.

Very truly yours,

H. R. Horner

BRH:ah

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